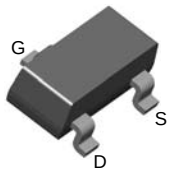
FAIRCHILD SEMICONDUCTOR®

August 2008

MMBFJ270
P-Channel Switch

Features

- This device is designed for low level analog switching sample and hold circuits and chopper stabilized amplifiers.
- Sourced from process 88.



SOT-23
Mark : 61S

Absolute Maximum Ratings (Note1) T_a = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{DG}	Drain-Gate Voltage	-30	V
V_{GS}	Gate-Source Voltage	30	V
I_{GF}	Forward Gate Current	50	mA
T_J, T_{STG}	Operating and Storage Junction Temperature Range	-55 ~ 150	°C

Note1 : These ratings are limiting values above which the serviceability of any semiconductor device may by impaired.

These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations

Thermal Characteristics

Symbol	Parameter	Value	Units
P_D	Total Device Dissipation Derate above 25°C	225 1.8	mW mW/°C
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient (Note2)	556	°C/W

Note2 : Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch

Electrical Characteristics T_C = 25°C unless otherwise noted

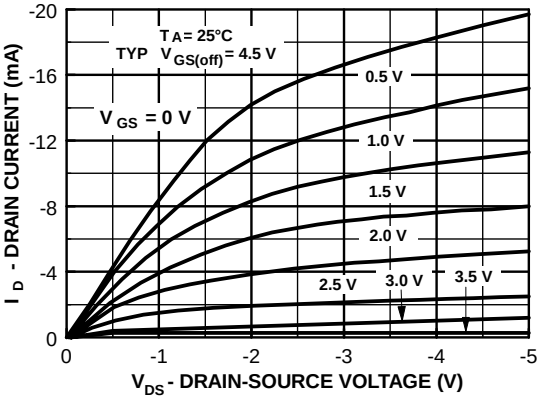
Symbol	Parameter	Test Condition	MIN	MAX	Units
Off Characteristics (Note3)					
$V_{(BR)GSS}$	Gate-Source Breakdwon Voltage	I_G = 1.0μA, V_{DS} = 0	30		V
I_{GSS}	Gate Reverse Current	V_{GS} = 20V, V_{DS} = 0		200	pA
$V_{GS(off)}$	Gate-Source Cutoff Voltage	V_{DS} = -15V, I_D = -1.0nA	0.5	2.0	V
On Characteristics (Note3)					
I_{DSS}	Zero-Gate Voltage Drain Current *	V_{DS} = -15V, V_{GS} = 0	-2.0	-15	mA
gfs	Forward Transferconductance	V_{GS} = 0V, V_{DS} = 15V, f = 1.0kHz	6000	15000	μmhos
goss	Common- Source Output Conductance	V_{GS} = 0V, V_{DS} = 15V, f = 1.0kHz		200	μmhos

Note3 : Short duration test pulse used to minimize self-heating effect.

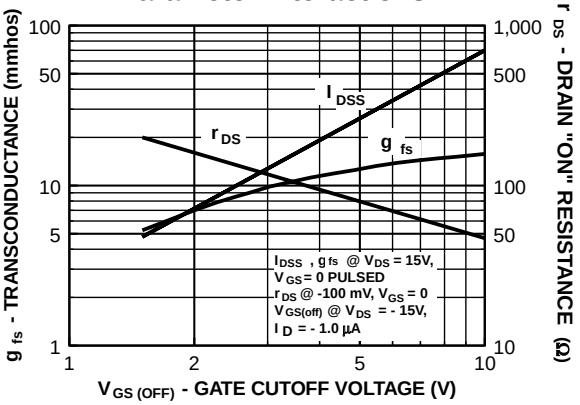
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Typical Characteristics

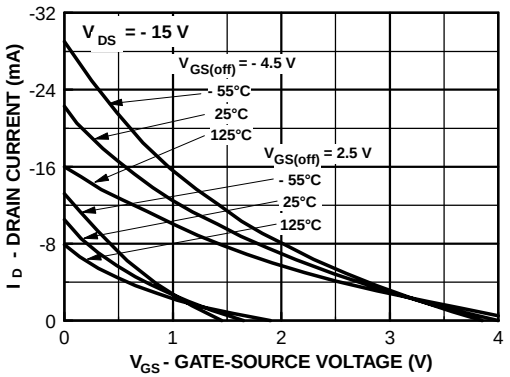
Common Drain-Source



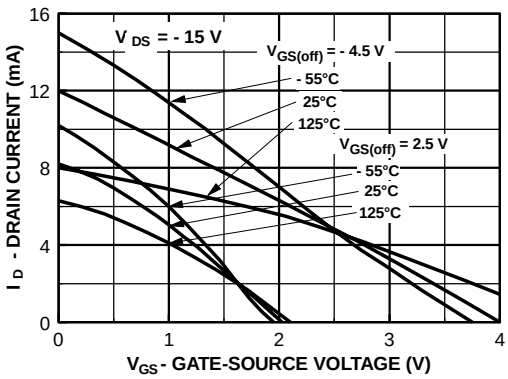
Parameter Interactions



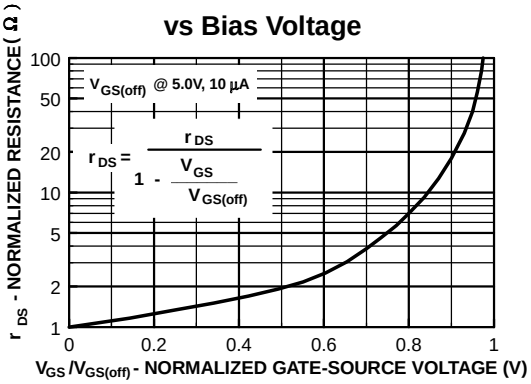
Transfer Characteristics



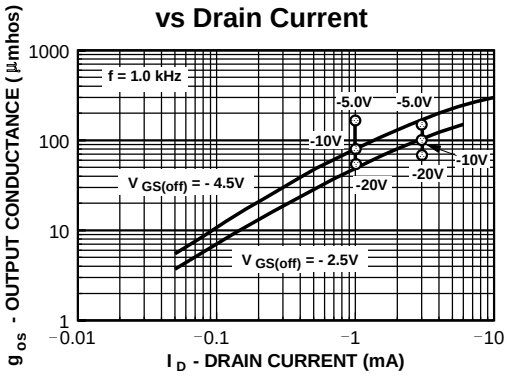
Transfer Characteristics



Normalized Drain Resistance vs Bias Voltage



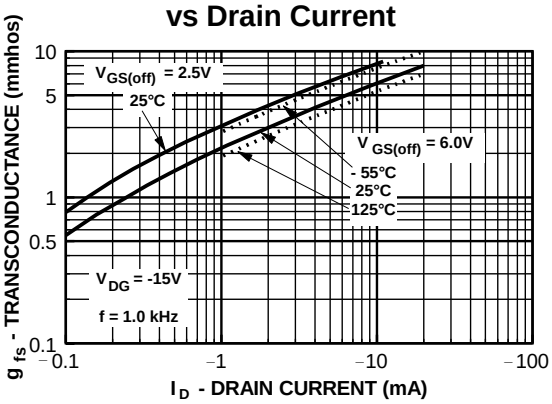
Output Conductance vs Drain Current



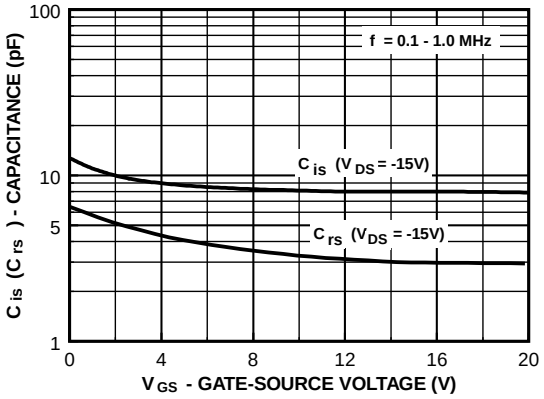
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Typical Characteristics (Continued)

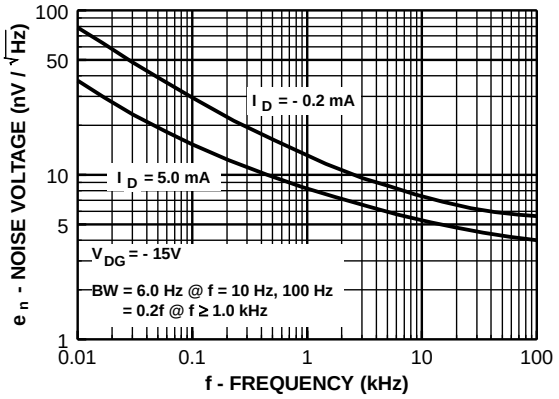
Transconductance vs Drain Current



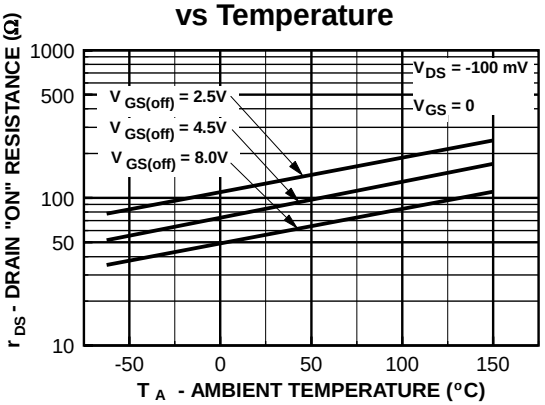
Capacitance vs Voltage



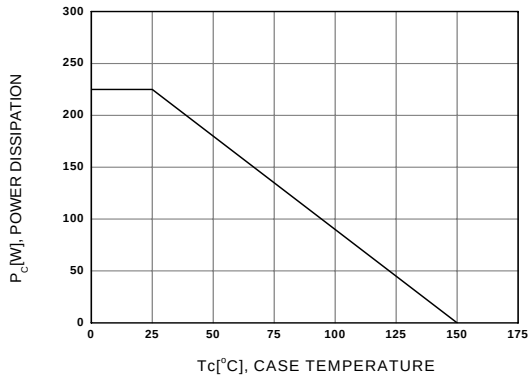
Noise Voltage vs Frequency



Channel Resistance vs Temperature



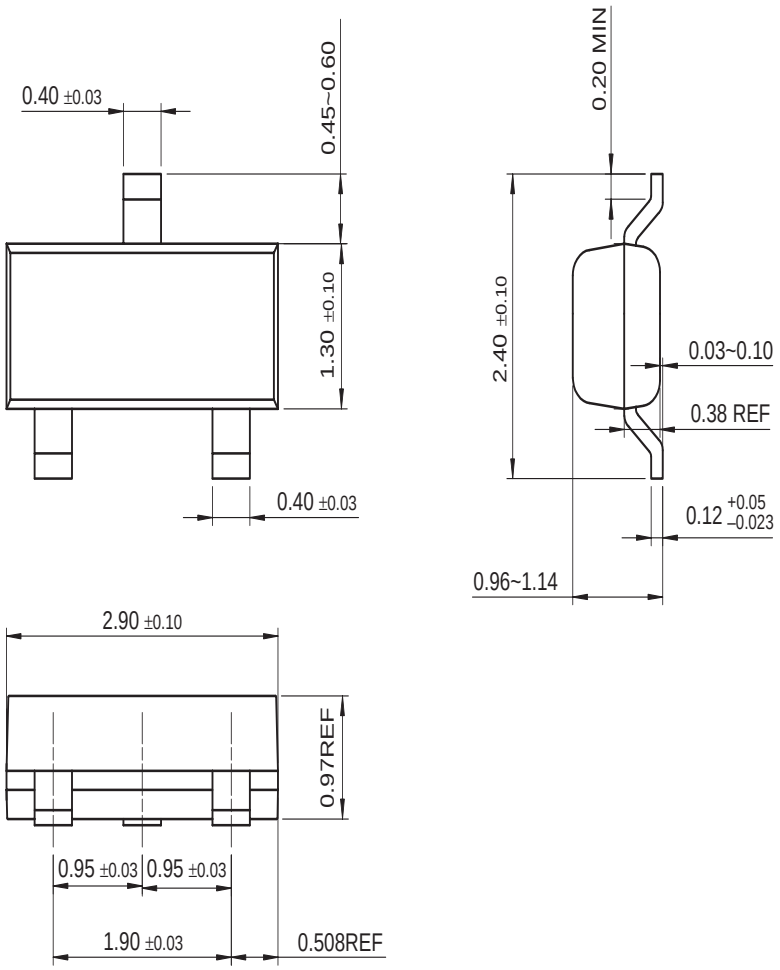
Power Derating



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Package Dimensions

SOT-23



Dimensions in Millimeters

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